



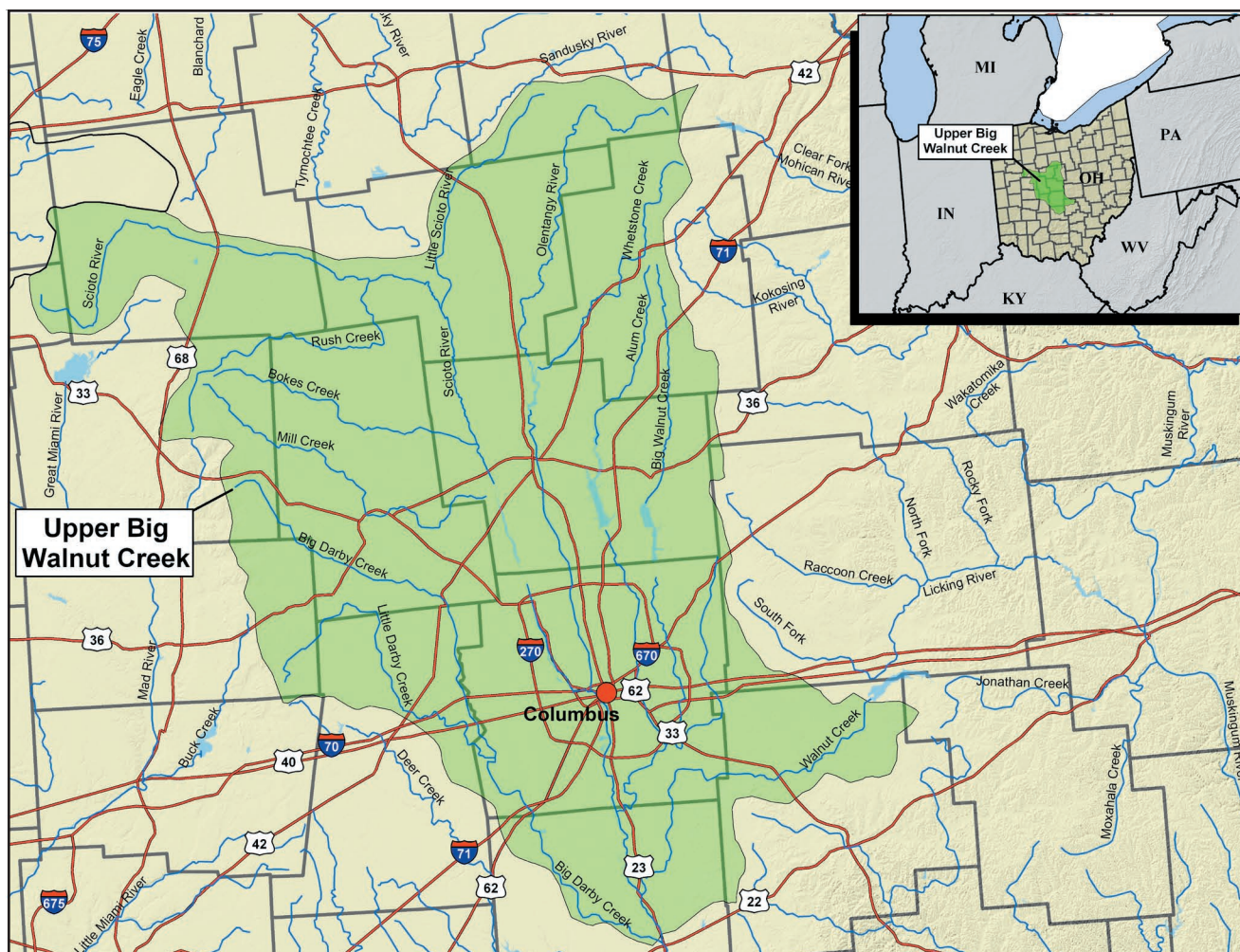
United States Department of Agriculture

## Conservation Effects Assessment Project (CEAP)

### Watershed Fact Sheet

## Upper Big Walnut Creek Watershed, Ohio: 2004-2009

An ARS\* Benchmark Research Watershed, one of 24 CEAP watershed projects.



## CEAP Assessment

Evaluate effects of conservation practices on soil quality, water quality and quantity, and wildlife habitat.

- A Total Maximum Daily Load (TMDL) limit has been set for allowable levels of sediment.

### Watershed Description

- About 122,000 acres
- 59% cropland, 14% forest, 13% urban
- Extensively tile drained.
- Streams have been designated impaired water bodies by Ohio.
- Impaired water quality parameters: drainage, flow and habitat alteration, nutrients, sediment, and livestock manure.

**Issues:** Runoff from primarily corn-soybean farms carries herbicides, sediment, and excess nutrients to Hoover Reservoir, the drinking water source for about 800,000 Columbus, Ohio, area residents. Drainage contributes nutrients linked to hypoxia in Gulf of Mexico.

*\*Agricultural Research Service*





Partnership meeting with owners and operators.



Dual flumes collecting water quantity and quality data from subsurface water drainage in the watershed.



Inspecting water quantity and quality data from subsurface water drainage in the watershed.

## Approach

**Water Sampling:** Pesticides, phosphorus, nitrate-nitrogen, and sediment.

**Watershed models:** SWAT (Soil and Water Assessment Tool)

**Research:** Effectiveness and economics of drainage management and other conservation practices.

## Communicating Results

Five annual progress reports planned; comprehensive water quality data on field runoff and underground tile pipes drainage; ecological assessment of streams; soil quality data; and assessment of practices.

## Collaborators

- USDA Natural Resources Conservation Service
- USDA Farm Service Agency
- U.S. Environmental Protection Agency, Ohio
- Delaware County Soil and Water Conservation District
- Local landowners and operators
- Upper Big Walnut Creek Water Quality Partnership
- The Ohio Environmental Council
- City of Columbus
- Ohio Department of Natural Resources
- The Ohio State University Extension Service
- The Ohio State University

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